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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,088	03/23/2006	Willem Antonius Boekelman	903-184 PCT/US	2582
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HOFFMANN & BARON, LLP 6900 JERICHO TURNPIKE SYOSSET, NY 11791			EXAMINER TANINGCO, MARCUS H	
			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/573,088	Applicant(s) BOEKELMAN, WILLEM ANTONIUS	
	Examiner MARCUS H. TANINGCO	Art Unit 2884	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-40 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 21-40 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/23/06, 12/7/06</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claims 21-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 21 recites the broad recitation "at least one light source," and the claim also recites "at least two light sources" which is the narrower statement of the range/limitation.

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Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 21-25, 29-31, 33, and 35-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Weckstrom et al. (*Weckstrom*, US 6,097,034).

With regards to claim 21, Weckstrom discloses a gas sensor (Figs. 1A, 10, 11) comprising at least one light source (1A), projection optics (4, 6, 10, 15) and a light-reflecting chamber (8) provided with at least one light entry opening, which gas sensor further comprises a detector (16) that cooperates with the chamber, by means of which detector light from the light source can be detected, wherein the gas sensor comprises at least two light sources (1A, 1B), which can each be projected on a light entry opening of the chamber by means of said projection optics.

With regards to claim 22, Weckstrom discloses said projection optics (4) project each of the light sources on a reduced scale on a light entry opening of the chamber. Weckstrom discloses said projection optics comprises a diffuser which diffuses (*projecting light on a reduced scale*) the light from light sources (1A, 1B).

With regards to claim 23, Weckstrom discloses said two light sources can each be projected on the same light entry opening of the chamber by means of projection optics (Fig. 10).

With regards to claim 24, Weckstrom discloses the light paths between the light sources and the detector are substantially identical (Fig. 10).

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With regards to claim 25, Weckstrom discloses said projection optics comprises at least one mirror (6).

With regards to claim 29, Weckstrom discloses said light sources are on the same side of the chamber (Fig. 10).

With regards to claim 30, Weckstrom discloses said light sources are spaced apart by a centre distance in the order of the diameter of the light sources (Fig. 10).

With regards to claim 31, Weckstrom discloses at least three light sources (Fig. 5).

With regards to claim 35, Weckstrom discloses said chamber is channel-shaped, at least one dimension (*length*) of the chamber being in the order of a dimension of a light-receiving surface of the detector (Fig. 11).

With regards to claim 36, Weckstrom discloses said chamber is provided with a light exit opening, near which light exit opening the detector is mounted (Fig. 11).

With regards to claims 37 and 38, Weckstrom discloses a filter (2, 3, 14) disposed between at least one light source and the detector.

With regards to claim 39, Weckstrom discloses said filter is disposed between the light source and the projection optics (Fig. 10).

With regards to claim 40, Weckstrom discloses said filter (14) is disposed between the projection optics and the detector.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weckstrom et al. in view of Gilby (US 4,382,656).

With regards to claims 32 and 34, Weckstrom discloses at least one side of said chamber which cross-section has a dimension in the order of the projection of the light source (Figs. 10, 11). Weckstrom fails to teach said chamber has a square cross-section. Gilby, teaches a tapered light pipe having a length at least three times greater than the cross-sectional dimension, for use in an infrared spectrometer having a square cross-section (Fig. 3). As such, modifying the shape of the chamber would have been a matter of routine design choice that would have been within the skill of a person of ordinary skill in the art depending on the needs of the particular application.

Allowable Subject Matter

Claims 26-28 and 33 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

With regards to claim 26, although Weckstrom teaches a mirror, it would not have been obvious to modify said mirror with a faceted mirror.

With regards to claim 33, prior art fails to teach a chamber having a cross-section that gradually decreases from the light entry opening in the direction of the detector.

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Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marcus H. Taningco whose telephone number is (571) 272-1848. The examiner can normally be reached on M - F 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*/Marcus H Taningco/
Primary Examiner, Art Unit 2884*